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Design of MIDI Audio Synthesizer Module for Musical Applications

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Final Project Report

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ABSTRACT

The introduction of the Musical Instrument Digital Interface (MIDI) specification revolutionized the way music is now recorded. Currently, there is a wealth of MIDI capable devices on the market, however they are not all in the price range of the occasional user. With the emphasis on more and greater capabilities, there has been left a gap in the product range for a low priced MIDI controlled synthesizer for the average user. This project attempted to find a feasible alternative to the high-end analog synthesizers by creating a new design with simpler circuitry that could still perform the most used functions needed by the target audience. This report will describe the steps taken, components used, and tests that were conducted to show that an alternative product is feasible.

Keywords:

MIDI, Music, Audio, Interface, DAC, Digital-to-Analog, Op-amp, Amplifier, Amplification, Signal Processing, Filtering, VCO, Voltage Controlled, Oscillator, Band Pass Filter, Low Pass Filter, Audio Filter, Frequency, Cutoff, Q Value, Attenuation

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